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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/762,350	01/23/2004	Seung Ho Yoo	LT-0045	4920
34610 7590 05/30/2007 KED & ASSOCIATES, LLP P.O. Box 221200 Chantilly, VA 20153-1200			EXAMINER GUPTA, PARUL H	
			ART UNIT 2627	PAPER NUMBER
			MAIL DATE 05/30/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/762,350	Applicant(s) YOO, SEUNG HO	
	Examiner Parul Gupta	Art Unit 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 February 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. Claims 1-26 are pending for examination as interpreted by the examiner. No IDS was considered. The amendment submitted to paragraph 0026 is noted to actually be an amendment to paragraph 0028.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5, 7-14, 16-22, and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takamine et. al., US Patent 6,195,321.

Regarding claims 1, 10, and 19, Takamine et. al. teaches a method and apparatus such as a disc device for controlling stop of a disc in a disc device (abstract), comprising: means for rotating a disc including a drive unit (element 7 of figure 1) configured to rotate a disc (column 5, lines 2-3); a servo controller (element 401 of figure 1) configured to detect a rotational velocity of said disc (column 5, lines 3-4); means for reducing a rotational velocity of said disc through a signal provided by servo controller (element 501 of figure 1, as explained in column 5, lines 4-7) to said drive unit (element 6 of figure 1) to reduce a rotational velocity of said disc; means for calculating a rotational velocity reduction ratio ("rise time" of column 5, lines 10-12) of said disc based on the velocity reduction through the servo controller; means for calculating a brake voltage time application (column 14, lines 49-57) with reference to said detected

Art Unit: 2627

disc rotational velocity and calculated disc rotational velocity reduction ratio ("rise time" of column 14, line 53); and means for braking said disc based on said calculated brake voltage time application through a signal to said drive unit ("deceleration signal" of column 14, line 56) to brake said disc based on said calculated brake voltage application time provided by the servo controller (column 14, lines 54-57). As the rise time is used to calculate both the acceleration and deceleration signals, it can be used as both the increasing and decreasing ratio for the rotational velocity. The signal as a rise time is used for the acceleration signal and the inverse is used for the deceleration signal. Thus, it would be obvious to use this ratio to calculate velocity reduction.

Regarding claims 2, 11, and 20, Takamine et. al. teaches in the column 4, line 56 the method, apparatus, and disc device, wherein the disc comprises an optical disc and the disc device comprises an optical disc device.

Regarding claims 3, 12, and 21, Takamine et. al. teaches the method, apparatus, and disc device, wherein the optical disc device comprises an optical disc reproduction device (column 5, lines 52-55).

Regarding claims 4, 13, and 22, Takamine et. al. teaches the method, apparatus, and disc device, wherein the drive unit that serves as the means for rotating a disc comprises a spindle motor (element 7 of figure 1 as explained in paragraph column 5, line 2).

Regarding claims 5 and 14, Takamine et. al. teaches the method and apparatus, wherein means for braking said disc based on said calculated brake voltage application time (column 14, lines 52-54) comprises means for applying a brake voltage (part of

"deceleration signal" of column 14, line 56) to said spindle motor for said calculated brake voltage application time to stop the disc.

Regarding claims 7, 16, and 24, Takamine et. al. teaches the method, apparatus, and disc device, wherein the servo controller that serves as means for calculating a rotational velocity reduction ratio of said disc based on the velocity reduction (column 5, lines 3-12) comprises means for calculating said rotation velocity reduction ratio of said disc based upon a reduced rotational velocity of said disc after the lapse of a predetermined period of time from a start point time of said velocity reduction (column 5, lines 10-12). As the rise time is used to calculate both the acceleration and deceleration signals, it can be used as both the increasing and decreasing ratio for the rotational velocity. The signal as a rise time is used for the acceleration signal and the inverse is used for the deceleration signal. Thus, it would be obvious to use this ratio to calculate velocity reduction.

Regarding claims 8, 17, and 25, Takamine et. al. teaches the method, apparatus, and disc device, wherein said rotational velocity reduction ratio of said disc is calculated based upon a period of time required until a current rotational velocity of said disc is reduced to a predetermined rotational velocity (column 5, lines 10-12). As the rise time is used to calculate both the acceleration and deceleration signals, it can be used as both the increasing and decreasing ratio for the rotational velocity. The signal as a rise time is used for the acceleration signal and the inverse is used for the deceleration signal. Thus, it would be obvious to use this ratio to calculate velocity reduction.

Regarding claims 9, 18, and 26, Takamine et. al. teaches the method, apparatus, and disc device of claims 1, 10, and 19, wherein said brake voltage application time is in proportion to said rotational velocity of said disc and in inverse proportion to said rotational velocity reduction ratio of said disc (equation 9 and column 14, lines 50-57). As the rise time is used to calculate both the acceleration and deceleration signals, it can be used as both the increasing and decreasing ratio for the rotational velocity. The signal as a rise time is used for the acceleration signal and the inverse is used for the deceleration signal. Thus, it would be obvious to use this ratio to calculate velocity reduction.

3. Claims 6, 15, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takamine et. al. in view of Shen, US Patent Publication 2003/0107964.

Regarding claims 6, 15, and 23, Takamine et. al. teaches the method, apparatus, and disc device of claims 1, 10, and 19. Takamine et. al. does not but Shen teaches wherein the servo controller that serves as the means for detecting a rotational velocity (as given in paragraph 11) of said disc comprises means for detecting said rotational velocity of said disc based upon information regarding a position of said disc (paragraph 0031). The given paragraph explains how the rotation speed of the disc changes according to the different radial locations on the disc. It would have been obvious to one of ordinary skill in the art at the time of the invention to include the concept of detecting rotational velocity based on radial positions of the disc as taught by Shen into the system of Takamine et. al.. The motivation would be to compensate for the different positions of the disc by stabilizing the speed.

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Parul Gupta whose telephone number is 571-272-5260. The examiner can normally be reached on Monday through Thursday, from 9:30 AM to 7 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571-272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PHG  
5/22/07



WAYNE YOUNG  
SUPERVISORY PATENT EXAMINER